

6A3
Revision 27
DOUGLAS
DC-6A
Navy R6D-1
USAF C-118A

September 30, 1969

[illegible]

Airspeed limits

Maximum Zero Fuel, Oil and ADI

Fluid Gross Weight

83200#

Vno (Normal Operating) 289 mph (251 knots)

S.L. to 17000' (1)

Mach No. = .52

Vne (Never Exceed) 346 mph (301 knots)

S.L. to 12000' (1)

Mach No. = .585

Va (Maneuvering) 213 mph (185 knots)

Vfe (Flaps Down 0° to 30°) 200 mph (174 knots)

Vfe (Flaps Down 30° to 50°) 175 mph (152 knots)

Vlo (Landing Gear Operation) 200 mph (174 knots)

Vle (Landing Gear Extension) 200 mph (174 Knots)

(1) Above altitudes shown, reduce speed 6 mph (5 knots) per 1000 feet.

C. G. range

Applies to 83,200 lbs. zero fuel, oil and ADI fluid gross weight aircraft.

Landing gear retraction moment -220,000 in.lbs. (Moves the C.G. forward)

GROSS WEIGHT	Landing Gear Extended (1)				Landing Gear Retracted (2)			
	Forward (3)		Aft		Forward (3)		Aft	
	%MAC	Sta.	%MAC	Sta.	%MAC	Sta.	%MAC	Sta.
Up to and including 83,200 lbs.	----	----	---	----	9.0	409.9	33.0	449.2
85,600 lbs.	11.0	413.2	33.0	449.2	---	---	---	---
102,200 lbs.	14.1	418.3	33.0	449.2	---	---	---	---
107,000 lbs.	16.9	422.9	33.0	449.2	13.8	417.7	33.0	449.2

(1) Applies for Take-off and Landing

(2) Applies for Enroute Operation

(3) Straight line variation in forward C.G. between weights shown

Maximum weights

(See NOTE 9)

Landing: 88,200 lbs. (See NOTE 6 for details).Zero fuel, oil and ADI fluid gross weight: 83,200 lbs.

(See NOTE 6 and Airspeed limits for details) (All weight in the airplane above this value must be in fuel, oil and ADI fluid).

Takeoff: See table below and NOTE 6. Dump valves are required in accordance with NOTE 1(e)

For 3-engine ferrying see NOTE 4

TAKE-OFF WEIGHT		
Engine Installation	Zero Fuel, Oil & ADI fluid gross weight	Propeller Installation Ham. Std. 43E60/6895
CB-3, CB-16	83,200 lbs.	103,800 lbs. (1) (3)
R-2800-52W or		100,000 lbs. (1)
R-2800-83AM5		92,200 lbs. (2)
CB-17, CB-4	83,200 lbs.	107,000 lbs. (1) (3)
R-2800-52W or		103,000 lbs. (1)
R-2800-83AM7		95,500 lbs. (2)

(1) With anti-detonant injection (See Engine Specification for ADI fluid composition) and 20° take-off flap setting.

(2) With dry power and 20° take-off setting.

(3) With automatic feathering propellers.

Minimum crew

For all revenue flights (passenger and/or cargo)

3 (Pilot and copilot (+48.0) and flight engineer (+69.0))

For all other flights (including test, ferry and training flights)

2 (Pilot and copilot (+48.0))

Additions to the above minimums may be specified by the FAA Air Carrier Safety Division for long range flights and/or other special conditions.

Maximum passengers

See NOTE 1(g) for cargo configuration and NOTE 7 for passenger configuration.

Maximum cargo

Compartment	Station	Capacity (lbs.) Arrangement No. 1 and 2	Maximum Floor Loading #/FT ²	Arm
A (belly)	89-221	1960	75	155.0
B (main cabin)	122-221	5940 less Comp't A load	200	171.5
C (belly)	221-281	890*	75	251.0
D (main cabin)	221-341	8710 less Comp't C load	200	281.0
E (main cabin)	341-421	6400	200	381.0
F (main cabin)	421-520	7920	200	470.5
G (main cabin)	520-600	6400	200	560.0
H (belly)	600-668	1810	75	634.0
J (main cabin)	600-688	5440 less Comp't H load	200	634.0
K (belly)	668-792	3030	75	730.0
L (main cabin)	668-792	7440 less Comp't K load	200	730.0
M (belly)	792-866	1350	30	829.0
N (main cabin)	792-866	2960 less Comp't M load	200	829.0
O (belly)	866-938	1310	30	902.0
P (main cabin)	866-955	3360 less Comp't O load	200	910.0

*When auxiliary power plant (Item 310) is not installed, Compartment C (221-341) capacity may be increased to 1780 lbs. and Compartment D capacity increased to 9660 lbs. less Compartment C load.

Arrangement No. 3 (AAL Version)

1 (main cabin)	123-221	5880 less Comp't 8 load	200	172.0
2 (main cabin)	221-311	9600 less Comp't 9 load	200	281.0
3 (main cabin)	311-460	9520	200	400.5
4 (main cabin)	460-560	8000	200	510.0
5 (main cabin)	560-660	8000 less Comp't 10 load	200	610.0
6 (main cabin)	660-800	8400 less Comp't 11 load	200	730.0
7 (main cabin)	800-955	6000 less Comp't 12 load	200	875.0
8 (belly)	89-221	1960	75	155.0
9 (belly)	221-311	1780	75	281.0
10 (belly)	600-660	880	75	630.0
11 (belly)	660-800	1720	***	730.0
12 (belly)	800-938	700	30	869.0

*** Sta. 660-760: 75#/Ft², Sta. 760-800: 30#/Ft²

Fuel capacity

(See NOTE 1(b), (c) and (d) for data on "System" fuel and "unusable" fuel;

NOTE 1(d) for required distribution of fuel load, NOTE 1(e) for "Undumpable" fuel.

	<u>Total</u>	<u>Usable</u>
Eight Wing Tank Airplane - 1322 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	431 gal. ea.	428 gal. ea. (+444.0)
2 inner wing fuel tanks (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)
Eight Wing Tank Airplane - 4934 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)
Eight Wing Tank Airplane - 5042 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	580 gal. ea.	576 gal. ea. (+452.0)
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)

Eight Wing Tank Airplane - 5404 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	762 gal. ea.	762 gal. ea. (+468.0)
Eight Wing Tank Airplane - 5512 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	580 gal. ea.	576 gal. ea. (+452.0)
inner wing fuel cells (#2 and #3 alt.)	762 gal. ea.	762 gal. ea. (+468.0)
Ten Wing Tank Airplane - 4722 Gallon or 4736 Gallon System:		
2 outer wing tanks (#1 and #4 main)	360 gal. ea.	360 gal. ea. (+448.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	519 gal. ea.	516 gal. ea. (+449.0)
	or	526 gal. ea.
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)
2 auxiliary fuel cells (L.H. and R.H.)	447 gal. ea.	444 gal. ea. (+500.0)
Ten Wing Tank Airplane - 5406 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)
2 auxiliary fuel cells (L.H. and R.H.)	447 gal. ea.	444 gal. ea. (+500.0)
Oil capacity	(See NOTE 1(b) and (f) regarding "System" oil and wing fillet oil tank installation.) Hamilton Standard Propeller Installation: 35 gal. in each nacelle (Douglas Dwg. #5342754) (+349.0) & (+379.0) 26 gal. in wing fillet (+565.0) (Required on all aircraft having a fuel system capacity greater than 4322 gallons except when a specific authorization for a fuel:oil ratio greater than 30:1 is approved by the Administrator.)	
Serial Nos. eligible	See Item 401 and NOTE 6 for complete list.	
Required equipment	In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed: 1(a), 2(a) or (b), 4(a) and 101(a), (b), (c), (d), (e) or (f); 103(a), (b) and (c), or 103(b), (c) and (d), or 103(b), (c) and (e), or 102(b) and (f), or 103(b), (c) and (g), 103(b), (c), and (h) or 103(b), (c) and (i); 105(a); 107(a), (b), (c), (d) or (e); 201(a), (b), (c), (d), (e), (f), (g), (h), (i), (j) or (k); 202(a), (b) or (c); 203; 204(a), (b), (c) or (d); 205(a), (b) or (c); 206; 207(a), (b), (c), (d), (e), (f), (g), (h), (i), (j) or (k); 208(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k) or (l); 301(a), (b), (c) or (d); 302(a); 401 (as applicable); 402(a), (b) or (c); 404(a) or (b); 405(a); 408(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), (n), (o), (p), (q), (r), or (s); 605(a) or (b).	
<u>Models Navy R6D-1 and U.S. Air Force C-118A (DC-6A), Approved December 19, 1951 and August 21, 1952, respectively.</u>		
Navy Model R6D-1 and U.S. Air Force Model C-118A basically same as DC-6A airplane except for equipment items and cargo arrangement. See NOTE 5 for differences between Navy Model R6D-1, U.S. Air Force Model C-118A and Basic Model DC-6A		
Engines	4 P&W Double Wasps CB-16, CB-17 or R-2800-52W (.45:1 propeller reduction gearing) (Item 101(a), (b) or (c).)	
Fuel	Aviation gasoline (CB-16 or R-2800-52W) Grade 100/130. (CB-17 or R-2800-52W) Grade 108/135	

Engine limits	P&W Double Wasp CB-16 or R-2800-52W		MP	
	Low impeller gear ratio 7.29:1	HP	RPM	IN.HG. ALT.
	Take-off (two minutes) (dry)	2050	2700*	55.0 S.L.
	Take-off (two minutes) (dry)	2050	2700*	53.0 6900'
	*(See NOTE 3 for propeller governor re-setting prior to "dry" take-off)			
	Take-off (two minutes) (dry)	1950	2800	53.0 S.L.
	Take-off (two minutes) (dry)	1950	2800	51.0 9800'
	Take-off (two minutes) (wet)	2400	2800	59.5 S.L.
	Take-off (two minutes) (wet)	2400	2800	59.0 5000'
	(See Item 104 for water-alcohol injection installation and Engine Specification E-264 for ADI fluid composition)			
	Maximum continuous	1800	2600	48.5 S.L.
	Maximum continuous	1800	2600	46.5 9200'
	High impeller gear ratio 8.58:1			
	Maximum continuous	1700	2600	48.5 10000'
	Maximum continuous	1700	2600	47.5 16800'
	P&W Double Wasps CB-17 or R-2800-52W			
	Low impeller gear ratio 7.29:1			
	Take-off (two minutes) (dry)	2200	2800	60.0 S.L.
	Take-off (two minutes) (dry)	2200	2800	59.0 5200'
	(critical altitude)			
	Take-off (two minutes) (wet)	2500	2800	62.0 S.L.
	Take-off (two minutes) (wet)	2500	2800	61.5 3700'
	(critical altitude)			
	(See Item 104 for water-alcohol injection installation and Engine Specification E-264 for ADI fluid composition)			
	Maximum continuous	1900	2600	51.5 S.L.
	Maximum continuous	1900	2600	50.0 7100'
	High impeller gear ratio 8.58:1			
	Take-off (two minutes) (wet)	1900	2600	50.5 10000'
	Take-off (two minutes) (wet)	1900	2600	49.0 15700'
	Maximum continuous	1750	2600	51.5 10000'
	Maximum continuous	1750	2600	49.5 15000'

Airspeed limits	Vno (Normal Operating)	289 mph (251 knots) True Ind.
		S.L. to 17000' (1) Mach No. = .52
	Vne (Never Exceed)	346 mph (301 knots) True Ind.
		S.L. to 12000' (1) Mach No. = .585
	Va (Maneuvering)	211 mph (183 knots) True Ind.
	Vfe (Flaps Down 0° to 30°)	200 mph (174 knots) True Ind.
	Vfe (Flaps Down 30° to 50°)	175 mph (153 knots) True Ind.
	Vlo (Landing Gear Operation)	200 mph (174 knots) True Ind.
	Vle (Landing Gear Extended)	200 mph (174 Knots) True Ind.
	(1) Above altitudes shown, reduce speed 6 mph (5 knots) per 1000 feet.	

C. G. range Landing gear retraction moment -220,000 in.lbs. (moves the C.G. forward)

GROSS WEIGHT	Landing Gear Extended (1)				Landing Gear Retracted (2)			
	Forward (3)		Aft		Forward (3)		Aft	
	%MAC	Sta.	%MAC	Sta.	%MAC	Sta.	%MAC	Sta.
Up to and including 83,200 lbs.	----	----	---	----	9.0	409.9	33.0	449.2
85,600 lbs.	11.0	413.2	33.0	449.2	---	---	---	---
102,200 lbs.	14.1	418.2	33.0	449.2	---	---	---	---
103,000 lbs.	14.6	419.0	33.0	449.2	13.0	416.4	33.0	449.2

(1) Applies for Take-off and Landing

(2) Applies for Enroute Operation

(3) Straight line variation in forward C.G. between weights shown

Maximum weights
(See NOTE 9)

Landing: 88,200 lbs. (See NOTE 6 for details).

Zero fuel, oil and ADI fluid gross weight: 83,200 lbs.

(See NOTE 6 details) (All weight in the airplane above this value must be in fuel, oil and ADI fluid).

Take-off: See table below and NOTE 6. Dump valves are required in accordance with NOTE 1(e)

For 3-engine ferrying see NOTE 4

TAKE-OFF WEIGHT		
Engine Installation	Zero Fuel, Oil & ADI fluid gross weight	Propeller Installation Ham. Std.
CB-16 or R-2800-52W	83,200 lbs.	100,000 lbs. (1)
CB-17, or R-2800-52W	83,200 lbs.	92,200 lbs. (2)
		103,000 lbs. (1)
		95,500 lbs. (2)

(1) With anti-detonant injection (See Engine Specification for ADI fluid composition) and 20° take-off flap setting.

(2) With dry power and 20° take-off setting.

Minimum crew

For all revenue flights (passenger and/or cargo)

3 (Pilot and copilot (+48.0) and flight engineer (+69.0))

For all other flights (including test, ferry and training flights)

2 (Pilot and copilot (+48.0))

Additions to the above minimums may be specified by the FAA Air Carrier Safety Division for long range flights and/or other special conditions.

Maximum passengers

None. See NOTE 1(g) for approved interior arrangement for Model

DC-6A and NOTE 5(f) for Model R6D-1 and Model C-118A.

Maximum cargo

Compartment	Station	Capacity (lbs.)	Maximum Floor Loading #/Ft ²	Arm
B-B (belly)	89-221	1960	75	155.0
B (main cabin)	(122-221)	5940 less Comp't B-B	200	189.0
C-C (belly)	221-281	** 890	75	251.0
C (main cabin)	221-281	4800 less Comp't C-C	200	251.0
D (main cabin)	281-341	4800	200	311.0
E (main cabin)	341-405	5120	200	373.0
F (main cabin)	405-470	5200	200	437.5
G (main cabin)	470-535	5200	200	502.5
H (main cabin)	535-600	5200	200	567.5
J-J (belly)	600-688	1000	75	634.0
J (main cabin)	600-668	5445 less Comp't J-J	200	634.0
K-K (belly)	668-730	770	75	699.0
K (main cabin)	668-730	3720 less Comp't K-K	200	699.0
L-L (belly)	730-792	770	*	761.0
L (main cabin)	730-792	3720 less Comp't L-L	200	761.0
M-M (belly)	792-866	390	30	829.0
M (main cabin)	792-866	2960 less Comp't M-M	200	829.0
N-N (belly)	866-938	370	30	902.0
N (main cabin)	866-955	3360 less Comp't N-N	200	910.0

All cargo loading must be secured with the tie-downs provided since there are no retaining net or crash bulkhead provisions.

*Sta. 730 to 760 = 75#/FT²

Sta. 760 to 792 = 30#/Ft²

**When auxiliary power plant (Item 310) is not installed, Compartment C-C (Belly) (221-341) capacity may be increased to 1780 lbs. All weight in compartment C-C will be subtracted from compartment C and D (main cabin).

Fuel capacity (See NOTE 1(b), (c) and (d) for data on "System" fuel and "Unusable" fuel;
NOTE 1(d) for required distribution of fuel load, NOTE 1(e) for "Undumpable" fuel.)

	<u>Total</u>	<u>Usable</u>
Ten Wing Tank Airplane - 5406 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	508 gal. ea.	502 gal. ea. (+441.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+444.0)
2 inner wing fuel tanks (#2 and #3 alt.)	527 gal. ea.	524 gal. ea. (+449.0)
2 auxiliary fuel cells (L.H. and R.H.)	447 gal. ea.	444 gal. ea. (+500.0)
Eight Wing Tank Airplane - 5404 Gallon System:		
2 outer wing tanks (#1 and #4 main)	695 gal. ea.	695 gal. ea. (+460.0)
2 inboard inner wing tanks (#2 and #3 main)	719 gal. ea.	700 gal. ea. (+451.0)
or (Serial No. 43819 and up)	719 gal. ea.	713 gal. ea. (+451.0)
2 outboard inner wing tanks (#1 and #4 alt.)	526 gal. ea.	523 gal. ea. (+449.0)
2 inner wing fuel cells (#2 and #3 alt.)	762 gal. ea.	762 gal. ea. (+468.0)

Oil capacity (See NOTE 1(b) and (f) regarding "System" oil and wing fillet oil tank installation.)
Hamilton Standard Propeller Installation:
35 gal. in each nacelle (Douglas Dwg. #5342754)(+349.0) & (+379.0)
26 gal. in wing fillet (+565.0)
(Required on 5406 gallon ten wing tank airplanes, and 5404 gallon eight wing tank airplanes)

Serial Nos. eligible 43206 and up (For R6D-1)
43565 and up (For C-118A)

Required equipment In addition to the pertinent required basic equipment specified in CAR 4b, the following items of equipment must be installed:
1(a), 2(a) or (b), 3(a), and 101(b) or (c); 103(b), (c) and (d) or 103(b), (c) and (e);
105(a); 107(a), (b), (c) or (d); 201(c), (d), (e) or (f); 202(a); 203; 204(a); 205(a); 206;
207(c), (d), (e), (f), (g) or (h); 208(a), (b), (c) or (d); 301(a), (b) or (c); 302(a); 402(b);
404(a) or (b); 405(a); 408(c); 605(a) or (b).

Specifications Pertinent to All Models

Datum	63 in. aft of nose (Station 0)
MAC	163.6 in. L.E. of MAC (+395.2)
Leveling means	Bracket at Sta. 387.4 (below floor) and Sta. 4 and 22 (nose wheel well)
Control surface movements	(May be either arrangement "A" or arrangement "B") <u>Arrangement "A"</u> (Serial No. 12901 only)
Aileron	(Drooped 1° w/r to wing T.E., wheel neutral. (19° up, 17° down from neutral drooped position.
Aileron tab	(Faired w/r to aileron T.E., controls neutral (± 21 1/2° ± 1/2° from neutral position.
Rudder*	± 15 1/2 ± 1/2° from neutral faired position.
Rudder tab	± 19 1/2° ± 1/2° from neutral faired position. (T.E. faired with tail cone, control column neutral. (Down 15° ± 1/2° from neutral, control column full forward 22° 41' from vertical.
Elevator	(Up 22° ± 1/2° from neutral when elevator trim tab (setting is 5° nose down to 4° nose up. (Up 25° ± 1/2° from neutral when elevator trim tab (setting is 7° nose up to 15° nose up. (Up 2 1/2° ± 1/2° control neutral - springs each (will produce 3 1/2# preload at T.E.
Elevator spring tab	(Down 19° ± 1/2° from faired position, control full aft. (Up 9° ± 1/2° from faired position control full forward.
Elevator trim tab**	(Down 15° ± 1/2° from neutral faired position. (Up 5° ± 1/2° from neutral faired position.

Arrangement "B"

Aileron	(Drooped 1° w/r to wing T.E., wheel neutral. (19° up, 17° down from neutral drooped position.
Aileron tab	(Faired w/r to aileron T.E., controls neutral (± 21 1/2° ± 1/2° from neutral position.
Rudder*	± 20° ± 1/2° from neutral faired position.
Rudder tab	± 19 1/2° ± 1/2° from neutral faired position. (T.E. faired with tail cone, control column neutral. (Down 15° ± 1/2° from neutral, control column full 24° 30' from vertical.
Elevator	(Up 22° ± 1/2° from neutral when elevator trim tab (is 6° nose down to 4° nose up. (Up 25° ± 1/2° from neutral when elevator trim tab (is 4° nose up to 9° nose up. (Up 25° ± 1/2° from neutral when elevator trim tab (is 4° nose up to 9° nose. up.
Elevator spring tab	(Up 2 1/2° ± 1/2° controls neutral - springs each will produce (3 1/2# preload at T.E. (Down 22 1/2° ± 1/2° from faired position control full aft. (Up 7 1/2° ± 1/2° from faired position, control full forward.
Elevator trim tab**	(When indicator zeroed T.E. down 2° from faired position. (Down 11° ± 1/2° from neutral faired position. (Up 4° ± 1/2° from neutral faired position.

*Airplanes having 15 1/2° rudder travel may change to ± 20° travel
Arrangement "B" (See Douglas Service Letter A-214-191/ERH II-G-7,
DC6-SC#959. Douglas Dwg. 4394980, E.O. #5328376-AZ)

**To provide elevator trim tab limits 11° down and 1° up, accomplish
rework per Douglas Service Bulletin DC-6 No. 497. Certification basis Type
Certificate No. 6A3. (Transport Category, CAR 4b, as amended to October 1, 1949.)
The forward and aft lower belly cargo compartments are Class "D" compartments.
Smoke detectors, per amendment 4b-2 effective August 25, 1955, or extinguishing
provisions are not required.
Compliance with ditching provisions of 4b.292 has been demonstrated.
Maximum approved operational altitude 25,000 ft.

Production basis

Production Certificate No. 27

Export eligibility

Eligible for export to all countries subject to the provisions of MOP 2-4 except as
follows:

(a) Canada - Landplane only eligible

Equipment:

Approval for the installation of all items of equipment listed herein has been obtained by
the aircraft manufacturer except those items preceded by an asterisk (*). The asterisk
denotes that approval has been obtained by someone other than the aircraft
manufacturer. An item marked with an asterisk may not have been manufactured under
a FAA monitored or approved quality control system, and therefore conformity must be
determined if the item is not identified by a Form ACA-186, PMA or other evidence of
FAA production approval.

Propellers and Propeller Accessories (Except De-Icing Equipment)

Note: When reversible pitch propellers are installed, the minimum permissible force at the throttle knobs required to move
each throttle from positive to negative thrust position shall be eight pounds in addition to the throttle system friction.

1. (a) 4 Ham. Std. propellers, hubs 43E60, blades 6895-8 2240 lbs. (+272.0)
Diameter: Max. 13'5-5/16", min. allowable for repairs 13' 1-9/16".
No further tolerance permitted.
Pitch settings at 42" sta.: Reverse -8°, Min. low +30°
Feathered +96° (approx.)

- (b) Deleted - September 24, 1954
- (c) 4 Spinners, Ham. Std. 511748 with Douglas Cowling Interliners 181 lbs. (+276.0)
- 2. Propeller governors (See NOTE 3 for governor settings for CB-16 engines.)
 - (a) 4 Ham. Std. 5U18-1 52 lbs. (+292.0)
 - (b) 4 Ham. Std. 5U18-11, -24, -61, -114 or -118. 54 lbs. (+293.0)
- 3. Propeller feathering pumps
 - (a) 4 Pesco IE-777-KL-1 (Douglas Dwg. #3342196) 64 lbs. (+367.0)

Engines and Engine Accessories - Fuel and Oil Systems

- 101. (a) 4 P&W Double Wasp CB-16 9600 lbs. (+294.0) & (+324.0)
- (b) 4 P&W Double Wasps CB-17 9600 lbs. (+294.0) & (+324.0)
- (c) 4 P&W R-2800-52W 9600 lbs. (+294.0) & (+324.0)
- (d) 4 P&W R-2800-83AM7 9600 lbs. (+294.0) & (+324.0)
- (e) 4 P&W R-2800-83AM5 9600 lbs. (+294.0) & (+324.0)
- (f) 4 P&W Double Wasps CB-3 9468 lbs. (+294.0) & (+324.0)
- (g) 4 P&W Double Wasps CB-4 9468 lbs. (+294.0) & (+324.0)
- 102. Fuel dump valve system
 - (a) Ten wing tank system (Douglas Dwg. #5248375-5500) 149 lbs. (+429.0)
 - (b) Ten wing tank system (Douglas Dwg. #5393033-5501 or 5393033-501) 149 lbs. (+429.0)
 - (c) Eight wing tank system (Douglas Dwg. #5393033) 139 lbs. (+427.5)
 - (d) Eight wing tank system (Douglas Dwg. #5393033) 145 lbs. (+427.0)
- 103. System fuel and oil
 - (a) System fuel, 4722 gal. or 4736 gal. capacity ten wing fuel tanks (68.5 gals.) 411 lbs. (+458.5)
 - (b) System oil, 35 gal. oil tank installation (55.0 gals.) Ham. Std. propeller installation 413 lbs. (+326.0)
 - (c) System oil, wing fillet 26 gal. tank (50% oil - 50% gasoline. 3.1 gals., 6.77#/gal.) 21 lbs. (+472.0)
 - (d) System fuel, 5406 gal. capacity ten wing fuel tanks (66.7 gals.) 400 lbs. (+460.0)
 - (e) System fuel, 5404 gal. capacity eight wing fuel tanks (56.2 gals.) 337 lbs. (+466.0)
 - (f) System fuel, 4322 gal. capacity eight wing fuel tanks (41.5 gals.) 249 lbs. (+459.0)
 - (g) System fuel, 5512 gal. capacity eight wing fuel tanks (51.7 gals.) 310 lbs. (+467.5)
 - (h) System fuel, 4934 gal. capacity eight wing fuel tanks (53.5 gals.) 321 lbs. (+453.0)
 - (i) System fuel, 5042 gal. capacity eight wing fuel tanks (49.0 gals.) 294 lbs. (+453.5)
- 104. (a) Water-alcohol Injection (Douglas Dwgs. #7352910, #7371946, #5350629, and #5371664) with Water-alcohol Regulator, P&W No. 106400E 244 lbs. (+388.0)
- (b) Water-alcohol Injection Fluid, 39 gal. 291 lbs. (+453.5)
- 105. (a) 4 Oil Coolers, AiResearch 86764 or 87295 162 lbs. (+351.0)
- 107. Starters
 - (a) 4 Eclipse 1416-18 110 lbs. (+350.5)
 - (b) 4 Eclipse 36E00-4 113 lbs. (+350.5)
 - (c) 4 Jack & Heintz JH-6ER12, JH-6ESR12 or JH-6BESR12 106 lbs. (+350.5)
 - (d) 4 AN4116R6 112 lbs. (+350.0)
 - (e) 4 Jack & Heintz JH-6CE 108 lbs. (+351.0)

Landing Gear

- 201. 4 Main wheel-brake assemblies, 17.00-20, Type III
 - (a) Goodyear Model LF20HBM 768 lbs. (+474.0)
 - Wheel Assembly No. 9540484
 - Brake Assembly No 9540505 (Max. T.O. Wt. 100,000 lbs., Landing 85,000 lbs.)
 - (b) Goodyear Model LF20HBM 768 lbs. (+474.0)
 - Wheel Assembly No. 9540484
 - Brake Assembly No 9540504 (Skydrol) (Max. T.O. Wt. 100,000 lbs., Landing 85,000 lbs.)
 - (c) Goodyear Model LF20HBM 747 lbs. (+474.0)
 - Wheel Assembly No. 9540484
 - Brake Assembly No. 9560164

	(d) Goodyear Model LF20HBM Wheel Assembly No. 9540484 Brake Assembly No. 9560166 (Skydrol)	747 lbs. (+474.0)
	(e) B.F. Goodrich Co., Model 1753M Wheel Assembly No. H-3-743 Brake Assembly No. H-2-603	737 lbs. (+474.0)
	(f) B.F. Goodrich Co., Model 1753M Wheel Assembly No. H-3-743 Brake Assembly No. H-2-602 (Skydrol)	737 lbs. (+474.0)
	(g) B.F. Goodrich Co., Model 1753M Wheel Assembly No. H-3-743 Brake Assembly No. H-2-630	731 lbs. (+474.0)
	(h) B.F. Goodrich Co., Model 1753M Wheel Assembly No. H-3-743 Brake Assembly No. H-2-629 (Skydrol)	731 lbs. (+474.0)
	(i) Goodyear Model LF20HBM Wheel Assembly No. 9540906 Brake Assembly No. 9560166 (Skydrol)	808 lbs. (+474.0)
	(j) B.F. Goodrich Co., Model 1753M Wheel Assembly No. H-3-743 Brake Assembly No. H-2-648	731 lbs. (+474.0)
	(k) Goodyear Model LF20HBM Wheel Assembly No. 9540906 Brake Assembly No. 9560164	808 lbs. (+474.0)
202.	4 Main wheel tires (NOTE: Satisfactory tire inflation pressures are given in the Airplane Maintenance Manual.)	
	(a) 20-ply rating, 15:50x20, Type III, Nylon	645 lbs. (+474.0)
	(b) 16-ply rating, 15:50x20, Type III, Nylon (Maximum take-off weight 100,000 lbs.)	640 lbs. (+474.0)
	(c) 20-ply rating, 15:50x20, Type III Nylon (Tubeless)	676 lbs. (+474.0)
203.	4 Main wheel tubes, 15:50x20, Type III, Regular	86 lbs. (+474.0)
204.	Nose wheel, 44"	
	(a) Goodyear Model 44NBM, Type I Wheel assembly No. 9540375	72 lbs. (+39.0)
	(b) Goodyear Wheel Assembly No. 9540758, Type I	72 lbs. (+39.0)
	(c) Goodrich Wheel Assembly No. H-3-866, 16:00-16, Type III	54 lbs. (+39.0)
	(d) Goodyear Wheel Assembly No. 9540876, Type I	72 lbs. (+39.0)
205.	(a) Nose wheel tire, 12-ply rating, 44", Type I, Nylon (Inflation pressure 70 psi)	105 lbs. (+39.0)
	(b) Nose wheel tire, 14-ply rating, 15:00-16, Type III, Nylon, Tubeless (Inflation pressure 70 psi)	99 lbs. (+39.0)
	(c) Nose wheel tire, 12-ply rating, 44" Type I, Nylon, Tubeless (Inflation pressure 70 psi)	105 lbs. (+39.0)
206.	Nose wheel tube, 44", Regular 16 lbs. (+39.0)	
207.	Main gear shock strut assembly <u>Maximum Take-off Weight - 100,000 lbs.</u>	
	(a) 2 Cleveland 8065H (Douglas Dwg. 5344246-502)	1112 lbs. (+475.0)
	(b) 2 Cleveland 8065HA (Douglas Dwg. 5342446-5502) (Skydrol)	1114 lbs. (+475.0)
	<u>Maximum Take-off Weight - 107,000 lbs.</u>	
	(c) 2 Cleveland 8065J (Douglas Dwg. 5342446-504)	1065 lbs. (+475.0)
	(d) 2 Cleveland 8065JA (Douglas Dwg. 5342446-5504) (Skydrol)	1074 lbs. (+475.0)
	(e) 2 Cleveland 8065K (Douglas Dwg. 5342446-506)	1023 lbs. (+475.0)
	(f) 2 Cleveland 8065KA (Douglas Dwg. 5342446-5506) (Skydrol)	1032 lbs. (+475.0)
	(g) 2 Cleveland 8065LA (Douglas Dwg. 5342446-5508) (Skydrol)	1037 lbs. (+475.0)
	(h) 2 Cleveland 8065L (Douglas Dwg. 5342446-508)	1028 lbs. (+475.0)
	(i) 2 Cleveland 8065N (Douglas Dwg. 5342446-512)	1033 lbs. (+475.0)
	(j) 2 Cleveland 8065NA (Douglas Dwg. 5342446-5512) (Skydrol)	1037 lbs. (+475.0)
	(k) 2 Cleveland 8065M (Douglas Dwg. 5342446-510)	1028 lbs. (+475.0)

208. Nose gear shock strut assembly
- | | |
|--|------------------|
| (a) Cleveland 8488B (Douglas Dwg. 5240509) | 301 lbs. (+50.0) |
| (b) Cleveland 8488BA (Douglas Dwg. 5240509-5000) (Skydrol) | 303 lbs. (+50.0) |
| (c) Cleveland 8488CA (Douglas Dwg. 5240509-5500) (Skydrol) | 298 lbs. (+50.0) |
| (d) Cleveland 8488C (Douglas Dwg. 5240509-500) | 296 lbs. (+50.0) |
| (e) Cleveland 8488D (Douglas Dwg. 5240509-502) | 294 lbs. (+50.0) |
| (f) Cleveland 8488DA (Douglas Dwg. 5240509-5502) (Skydrol) | 298 lbs. (+50.0) |
| (g) Cleveland 8488E (Douglas Dwg. 5240509-504) | 284 lbs. (+50.0) |
| (h) Cleveland 8488EA (Douglas Dwg. 5240509-5504) (Skydrol) | 286 lbs. (+50.0) |
| (i) Cleveland 8488HA (Douglas Dwg. 5240509-5510) (Skydrol) | 306 lbs. (+50.0) |
| (j) Cleveland 8488H (Douglas Dwg. 5240509-510) | 304 lbs. (+50.0) |
| (k) Cleveland 8488JA (Douglas Dwg. 5240509-5512) (Skydrol) | 306 lbs. (+50.0) |
| (l) Cleveland 8488J (Douglas Dwg. 5240509-512) | 304 lbs. (+50.0) |

Electrical Equipment

301. Generators
- | | |
|--------------------------------|-------------------|
| (a) 4 Eclipse 30E02-5-A | 250 lbs. (+355.0) |
| (b) 4 Eclipse 30E02-5-C | 244 lbs. (+355.0) |
| (c) 4 General Electric 2CM75D1 | 244 lbs. (+355.0) |
| (d) 4 General Electric 2CM82D1 | 240 lbs. (+355.0) |
302. Batteries
- | | |
|--------------------|-------------------|
| (a) 2 Exide 6FJ-13 | 164 lbs. (+ 81.0) |
|--------------------|-------------------|
310. Auxiliary electrical generating system
- | | |
|---|-------------------|
| (Engine-Generator AAF type D-2) (Douglas Dwg. #4363384) | 283 lbs. (+303.0) |
|---|-------------------|

Interior Equipment

401. FAA Approved Airplane Flight Manual (not required for Models R6D-1 and C-118A in military operation). (A manual containing information required for the Airplane Flight Manual may be carried in lieu thereof in aircraft operated under the provisions of Parts 40, 41 or 42 of the Civil Air Regulations). The following table identifies the Airplane Flight Manuals and the revisions thereof currently approved for each airplane:

<u>Airplane Serial Number</u>	<u>Douglas Report No.</u>	<u>Latest Approved Rev. No.</u>	<u>Date Latest Ap. Rev.</u>
(a) Deleted September 10, 1953			
(b) 43297, 43817, 44075, 44677, 44889, 45058, 45110, 45457, 45458, 45518-45520 (See NOTE 7(f) for passenger configuration)	SM-14157(Slick, FTL, JAL)	21	12-31-64
(c) 43839-43841, 44915-44917, 45373-45375	SM-14788(AAL)	10	11-7-63
(d) 44076, 44257	SM-14361(KLM)	13	10-16-57
(e) Deleted October 11, 1955			
(f) 44069, 44070, 43296 (See NOTE 7(c) or (e) for passenger configuration)	SM-14848(JAL)	7	2-17-59
(g) 44258-44260	SM-14319(PAA)	25	10-12-61
(h) 44420, 44421	SM-14670(SAB)	2	1-25-55
(i) 43707 (R6D-1)	SM-14157XX(Slick)	Supp. Rev. #3	8-4-55
(j) 44064 44071-44074 44890, 45499 (See NOTE 7(d), (g) or (h) for passenger configuration)	SM-14796(NWA) NWA Supp. Rev. #5	16	2-20-64 5-22-59
(k) 43404 (R6D-1)	SM-14157FTL(FTL)	Supp. Rev. #3	12-1-56
(l) 43818, 43819, 44063 (See NOTE 7(b) for passenger configuration)	SM-19239(AAZ-UAT)	4	9-20-63
(m) 44905-44909, 45521, 45522	SM-19501(UAL)	5	12-26-63

	<u>Airplane Serial Number</u>	Douglas <u>Report No.</u>	Latest Approved <u>Rev. No.</u>	Date Latest <u>Ap. Rev.</u>
(n)	Models R6D-1 and C-118A (applies to aircraft as delivered by the manufacturer. Any subsequent modifications and changes made to a particular aircraft by the military or an operator that affect the Airplane Flight Manual will require appropriate Manual revisions, which must be submitted to the FAA, Aircraft Engineering Division for approval).	SM-22594	---	---
(o)	45372	SM-22916(Riddle)	---	---
(p)	45226, 45227, 45368, 45369	SM-22947(TC, Air Liban)	1	2-24-58
(q)	45517	SM-23027(ALK)	1	8-24-61
(r)	45474-45476	SM-23074(ONA)	1	8-29-58
(s)	45480, 45481	SM-23152(LAS)	1	12-11-58
(t)	45503, 45504, 45527-45532	SM-23161(NAT, ICA, HCA) Great Lakes Airlines Supp. Rev. #1 dated 7-10-58 required on 45503 and 45504	3	1-28-59
(u)	45551	SM-14522 (SWA)	3	2-25-55
(v)	45497-45498 45500	SM-14827 (CPA)	8	10-19-61
402.	Emergency ladders (NOTE: Suitable evacuation slides may be installed in lieu of ladders)			
(a)	(Douglas Dwg. #5363735)			19 lbs. (+171.5)
(b)	(Douglas Dwg. #5402816)			20 lbs. (+178.0)
(c)	(Douglas Dwg. #3352240)			18 lbs. (+ 69.0)
403.	Automatic pilot: (Weight and C.G. shown do not include radio rack items of following installations which are listed under Electrical Equipment of Douglas Master Equipment List).			
(a)	Pioneer PB-10 (3 servos model 15601-1-A)			137 lbs. (+339.0)
(1)	Servo stall torques measured at the servo sectors are as follows and are satisfactory for Flight Path Control: Elevator: 88 to 158 in.lbs. (11-20 lbs. @ pilot's control) Aileron: 340 to 494 in.lbs. (14-20 lbs. @ pilot's control) Rudder: 324 to 432 in.lbs. (57-76 lbs.f @ pilot's control)			
(2)	Maximum speed for operation with autopilot is 330 mph TIAS. Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel (These clearances do not override any higher minimum operational altitudes).			
(b)	Sperry A-12 (3 servos Douglas Dwg. No. 2403860 or Sperry Nos. 678919-261 plus 664575; 1 servo No. 65822-11, 658648-11 plus 658774 or 658648-41 plus 658774).			150 lbs. (+287.0)
(1)	Servo stall forces measured at pilot's controls: Elevator: Max. 26 lbs., min. 20 lbs. Aileron: Max. 20 lbs., min. 12 lbs. Rudder: Max. 68 lbs., min. 51 lbs. (Stall forces shown are satisfactory for Automatic Approach)			
(2)	Maximum speed for operation with autopilot is 250 mph TIAS. Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel (Minimum altitude for each case does not override any higher operational altitudes).			
(3)	When the automatic pilot installation is modified in accordance with DACo Service Letter DC-6 No. 160 dated 9-2-53 and Supp. No. 1 dated 4-21-54 and elevator trim servo 658648-41 is installed, the following elevator servo stall forces and airplane operating speeds for automatic pilot operation apply: Max. 26 lbs., min. 13 lbs. Max. speed: 250 mph TIAS Max. 22 lbs., min. 13 lbs. Max. speed: 330 mph TIAS			

- (c) Sperry A-12 (3 servos Douglas Dwg. No. 2405685 or Sperry 678919-161 plus 664575; 1 servo 65822-11, 65848-11 plus 658774 or 658648-41 plus 658774) 157 lbs. (+277.0)
- (1) Servo stall forces measured at pilot's controls:
 Elevator: Max. 26 lbs., min. 20 lbs.
 Aileron: Max. 20 lbs., min. 12 lbs.
 Rudder: Max. 68 lbs., min. 51 lbs.
 (Stall forces shown are satisfactory for Automatic Approach)
 - (2) Maximum speed for operation with autopilot is 250 mph TIAS.
 Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel. (Minimum altitude for each case does not override any higher minimum operational altitudes).
 - (3) When the automatic pilot installation is modified in accordance with DACo Service Letter DC-6 No. 160 dated 9-2-53 and Supp. No. 1 dated 4-21-54 and elevator trim servo 658648-41 is installed, the following elevator servo stall forces and airplane operating speeds for automatic pilot operation apply:
 Max. 26 lbs., min. 13 lbs. Max. speed: 250 mph TIAS
 Max. 22 lbs., min. 13 lbs. Max. speed: 330 mph TIAS
- (d) Sperry A-12 (1 servo PAA No. 44.051.0001-100 or 102; 2 servos PAA No. 44.051.0001-101 or -103; 1 servo 658522-11 or 664237-11 or 658648-11 plus 658774 or 658648-41 plus 658774. 157 lbs. (+277.0)
- (1) Servo stall forces measured at pilot's controls:
 Elevator: Max. 22 lbs., min. 16 lbs.
 Aileron: Max. 20 lbs., min. 12 lbs.
 Rudder: Max. 68 lbs., min. 51 lbs.
 (Stall forces shown are satisfactory for Automatic Approach)
 - (2) Maximum speed for operation with autopilot is 250 mph TIAS.
 Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel. (Minimum altitudes for each case does not override any higher minimum operational altitudes).
 - (3) When the automatic pilot installation is modified in accordance with DACo Service Letter DC-6 No. 160 dated 9-2-53 and Supp. No. 1 dated 4-21-54 and elevator trim servo 658648-41 is installed, the following elevator servo stall forces and airplane operating speeds for automatic pilot operation apply:
 Max. 26 lbs., min. 13 lbs. Max. speed: 250 mph TIAS
 Max. 22 lbs., min. 13 lbs. Max. speed: 330 mph TIAS
- (e) Pioneer PB-10 (3 servos model 15601-1-A, 1 servo model 15620-2A) 148 lbs. (+326.0)
- (1) Servo stall torques measured at the servo sectors are as follows and are satisfactory for Flight Patch Control:
 Elevator: 88 to 158 in.lbs. (11-20 lbs. @ pilot's control)
 Aileron: 340 to 494 in.lbs. (14-20 lbs. @ pilot's control)
 Rudder: 324 to 432 in.lbs. (57-76 lbs. @ pilot's control)
 - (2) Maximum speed for operation with autopilot is 330 mph TIAS.
 Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel (These clearances do not override any higher minimum operational altitudes).
- * (f) Lear L-5 servos model 118P, 1 servo model 220-1A) installed in accordance with Lear Dwg. No. 95790. (Weight and arm shown are for complete installation) 170 lbs. (298.5)
- (1) Servo stall torques at capstan slip clutch are as follows and are satisfactory for automatic approach.
 Elevator: 85 ± 5 in. lbs.
 Aileron: 75 ± 5 in. lbs.
 Rudder: 85 ± 5 in. lbs.

- (2) Maximum speed for operation with autopilot is 300 mph TIAS.
Minimum terrain clearance for autopilot cruise configurations is 1000 ft.: for approach is 200 ft., pilot's seat belt fastened and hand on control wheel (These clearances do not override any higher minimum operational altitudes).
 - (3) With this autopilot installation one of the following is required:
 - (a) Slick Airways, Inc. supplementary Airplane Flight Manual Revision to Douglas Report No. 11.57 dated 2-5-52 or
 - (b) An Airplane Flight Manual Revision incorporating air limitations specified in item (2) above.
- (g) Sperry A-12 (3 servos Sperry 679803-161 plus 664575. 140 lbs. (+282.0)
1 servo 658618-11 plus 658774 or 658648-4; plus 658771)
 - (1) Servo stall forces measured at pilot's controls:
 - Elevator: Max. 25 lbs., min. 20 lbs.
 - Aileron: Max. 20 lbs., min. 12 lbs.
 - Rudder: Max. 68 lbs., min. 51 lbs.
 (Stall forces shown are satisfactory for automatic approach)
 - (2) Maximum speed for operation with automatic pilot is 250 mph TIAS.
Minimum terrain clearance for automatic pilot cruise configuration is 1000 ft., for approach 200 ft., pilot's seat belt fastened and hand on control wheel. (Minimum altitudes for each case does not override operational altitudes).
 - (3) When the automatic pilot installation is modified in accordance with DACo Service Letter No. 160 dated 9-2-53 and Supp. No. 1 dated 4-21-54 and elevator trim servo 658648-41 is installed, the following elevator servo stall forces and airplane operating speeds for automatic pilot operation apply:
 - Max. 26 lbs., min. 13 lbs. Max. speed: 250 mph TIAS
 - Max. 22 lbs., min. 13 lbs. Max. speed: 330 mph TIAS
- (h) Sperry A-12 (3 servos Sperry 679803-167 plus 664575; 140 lbs. (+282.0)
1 servo 658648-41 plus 658774)
 - (1) Servo stall forces measured at pilot's controls are as follows, and are satisfactory for automatic approach:
 - Elevator: Max. 26 lbs., min. 13 lbs.
 - Aileron: Max. 20 lbs., min. 12 lbs.
 - Rudder: Max. 68 lbs., min. 51 lbs.
 - (2) Maximum speed for operation with autopilot is 250 mph TIAS; if maximum elevator servo stall force is limited to 22 lbs., the maximum speed is 330 mph TIAS. See FAA Approved Airplane Flight Manual for altitude loss during automatic pilot malfunction.
- 404. Windshield wipers
 - (a) Kearfott or Alco (Douglas #5332419) (Skydrol) 10 lbs. (+ 14.0)
 - (b) Kearfott or Alco (Douglas Dwg. #5332419-5000) (Skydrol) 10 lbs. (+ 14.0)
- 405. Instruments - in accordance with the following Dwgs. on file with the FAA Regional Office in Los Angeles, California:
 - (a) Douglas Dwg. 7398245
- 408. Oxygen system (Full face, or equivalent, demand oxygen mask and regulator required for each crew member on flight deck duty).
 - (a) Oxygen system, less bottle (Douglas Dwg. #5329204-532) 7 lbs. (+ 65.0)
Oxygen bottle, Kidde 923757 27 lbs. (+ 73.5)
 - (b) Oxygen system, less bottle (Douglas Dwg. #5390822-501) 13 lbs. (+ 61.5)
Oxygen bottle, Kidde 923748 21 lbs. (+ 73.0)
 - (c) Oxygen system, less bottles (Douglas Dwgs. #5397930, 5398732, 5397988) (Models R6D-1 and C-118A only - See NOTE 5(g)). 34 lbs. (+160.5)
Oxygen bottles, G-1, D-2, AAF 44D22201 (3) 39 lbs. (+343.5)
 - (d) Oxygen system, less bottles (Douglas Dwg. #5490000-501) 36 lbs. (+ 67.0)
Oxygen bottle, Kidde 923748 21 lbs. (+ 74.0)
Oxygen bottle, Portable, Scott 5600B-3B-2 8 lbs. (+ 69.0)
 - (e) Oxygen system, less bottle (Douglas Dwg. #5329204-540) 35 lbs. (+ 74.0)
Oxygen bottle, Kidde 924051 34 lbs. (+ 65.0)
Oxygen bottle, Scott 5600B-3B-2 8 lbs. (+ 65.0)

(f)	Oxygen system, less bottle (Douglas Dwg. #5390986-537)	24 lbs. (+ 74.0)
	Oxygen bottle, Kidde 923748	21 lbs. (+ 64.0)
	Oxygen bottle, Scott 5600B-3B-2	8 lbs. (+ 65.0)
(g)	Oxygen system, less bottle (Douglas Dwg. #5329204-544)	35 lbs. (+ 73.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B3-B-2	8 lbs. (+ 65.0)
(h)	Oxygen system, less bottle (Douglas Dwg. #5390986-543)	35 lbs. (+ 83.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B3-B-2	8 lbs. (+ 65.0)
(j)	Oxygen system, less bottle (Douglas Dwg. #5329204-546)	35 lbs. (+ 73.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B3-B-2	8 lbs. (+ 65.0)
(k)	Oxygen system, less bottle (Douglas Dwg. #5348744-502)	28 lbs. (+ 90.0)
	Oxygen bottle, Kidde 923757	27 lbs. (+ 73.5)
	Portable oxygen bottle, (UAL Dwg. 9F708)	12 lbs. (+121.0)
(l)	Oxygen system, less bottle (Douglas Dwg. #5390986-569)	45 lbs. (+ 86.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(m)	Oxygen system, less bottle (Douglas Dwg. #5390986-571)	24 lbs. (+ 70.0)
	Oxygen bottle, Kidde 923748	21 lbs. (+ 73.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(n)	Oxygen system, less bottle (Douglas Dwg. #5290986-575)	45 lbs. (+ 86.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(o)	Oxygen system, less bottle (Douglas Dwg. #5390986-579)	26 lbs. (+ 91.5)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(p)	Oxygen system, less bottle (Douglas Dwg. #5390986-529)	35 lbs. (+ 63.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(q)	Oxygen system, less bottle (Douglas Dwg. #5390986-560)	32 lbs. (+ 81.0)
	Oxygen bottle, Kidde 923748	21 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B-2	8 lbs. (+ 65.0)
(r)	Oxygen system, less bottle (Douglas Dwg. #5390986-567)	27 lbs. (+ 69.0)
	Oxygen bottle, Kidde 923748	21 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B2	8 lbs. (+ 65.0)
(s)	Oxygen system, less bottle (Douglas Dwg. #5390986-585)	43 lbs. (+ 81.0)
	Oxygen bottle, Kidde 924051	34 lbs. (+ 65.0)
	Oxygen bottle, Scott 5600-B-3B2	8 lbs. (+ 65.0)

Deicing Equipment

501.	(a)	2 Wing heaters, Surface Combination Corp. B88A92 (Douglas Dwg. #5359829-10), (88A92) (Douglas Dwg. #5359829-12), J88A92 (Douglas Dwg. #5406945-9), L88A92 (Douglas Dwg. #5406945-11), M88A92 (Douglas Dwg. #5406945-17), N88A92 (Douglas Dwg. #5406945-19)	138 lbs. (+117.0)
	(b)	2 Wing accessory case (Douglas Dwg. #5359913)	44 lbs. (+397.0)
	(c)	2 Wing ground blowers, English & Lauer CM-025-4CC (Douglas Dwg. #7333181)	11 lbs. (+408.5)
	(d)	Empennage heater, Surface Combustion Corp. B88A92 (Douglas Dwg. #5359829-10), C88A92 (Douglas Dwg. #5359829-12), J88A92 (Douglas Dwg. #5406945-9), L88A92 (Douglas Dwg. #5406945-11), (Douglas Dwg. #5406945-17), N88A92 (Douglas Dwg. #5406945-19)	69 lbs. (+1003.0)
	(e)	Empennage accessory case (Douglas Dwg. #5359913)	22 lbs. (+975.0)
	(f)	Empennage ground blower, English & Lauer CM-050-5CC (Doug. Dwg. 7333180)	9 lbs. (+1016.5)
	(g)	2 wing accessory case #26C98	32 lbs. (+397.0)
	(h)	Empennage accessory case #26C98	16 lbs. (+975.0)

502.	(a)	Carburetor and windshield anti-icing system, complete, less alcohol	66 lbs. (+413.0)
	(b)	Anti-icing alcohol (16 gals.)	106 lbs. (+570.0)
	(c)	Carburetor anti-icing system complete, less alcohol	5 lbs. (+413.0)
503.	(a)	Propeller electrical anti-icing equipment, less equipment on Ham. Std. Propellers (Douglas Dwgs. #5344301, #5338222, #5338223, #5362737, #2372408)	123 lbs. (+313.0)
504.	(a)	Propeller electrical anti-icing equipment on Ham. Std. 6895-8 blades	24 lbs. (+272.0)

Miscellaneous

605.		Hydraulic fluid in system and reservoir (15.3 gals.)	
	(a)	Skydrol	138 lbs. (+340.5)
	(b)	Mineral oil	111 lbs. (+340.5)

- NOTE 1. (a) Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system). Manufacturer's Master Equipment List contains list of approved equipment in addition to equipment listed in this specification.
- (b) "System Fuel and Oil" (Item 103), which must be included in the empty weight, is that amount required to fill both systems and the tanks up to the tank outlets to the engines, when the airplane is in the level attitude. The propeller feathering oil in aircraft incorporating Hamilton Standard propellers is not considered usable oil and is included in the "System Oil". The nacelle oil tank capacities shown in this specification include only the usable oil for which the tanks are to be placarded. All hydraulic system fluid (Item 605) must also be included in the empty weight of the airplane.
- (c) The "unusable fuel" is that amount of fuel in the tanks which is unavailable to the engines under critical flight conditions as defined in CAR 4b.416 and may be obtained by taking the difference between the "total" and "usable" tank capacities shown under "Fuel Capacity." The "unusable fuel" must either be included in the airplane empty weight or be suitably accounted for in the airplane weight and balance report.
- (d) Structural Limitations on Fuel Loading and Usage. All fuel must be distributed equally on both sides of the airplane. All main tanks must be filled equally first, then alternates, then auxiliaries (ten wing tank airplanes). Fuel must be used in the reverse order from fuel loading except for take-off, climb and landing, at which time the main tanks must be used. Satisfactory alternate fuel loading and usage procedures have been approved and placed in the Approved Airplane Flight Manual. These alternate procedures may be used in lieu of the above.
- (e) Fuel dumping. Fuel dump valves (Item 102 must be installed for operation of the airplane at weights in excess maximum landing weight. Refer to FAA Approved Airplane Flight Manual for limitations and cautionary cedures to be observed during the dumping of fuel. When dump system (Item 102) is installed, the amount of ble fuel remaining in the fuel tanks after dumping is as follows:
- | | | |
|-----|--|--------------|
| (1) | Ten Wing Airplane - 4722 Gal. or 4736 Gal. System | |
| | Outer inner wing (#1 and #4 main) | 112 gal. ea. |
| | Inboard inner wing (#2 and #3 main) | 102 gal. ea. |
| | Outboard inner wing (#1 and #4 alt.) | 50 gal. ea. |
| | Inboard wing fuel cells (#2 and #3 alt.) | 120 gal. ea. |
| | Auxiliary fuel cells (L.H. and R.H. aux.) | 168 gal. ea. |
| (2) | Ten Wing Tank Airplane - 5406 Gal. Gal. System | |
| | Outer inner wing (#1 and #4 main) | 116 gal. ea. |
| | Inboard inner wing (#2 and #3 main) | 102 gal. ea. |
| | Outboard inner wing (#1 and #4 alt.) | 00 gal. ea. |
| | Inboard wing fuel cells (#2 and #3 alt.) | 36 gal. ea. |
| | Auxiliary fuel cells (L.H. and R.H. aux.) | 168 gal. ea. |
| (3) | Eight Wing Tank Airplane - 5404 Gal. & 5512 Gal. System | |
| | Outer inner wing (#1 and #4 main) | 116 gal. ea. |
| | Inboard inner wing (#2 and #3 main) | 108 gal. ea. |
| | Outboard inner wing (#1 and #4 alt.) | 00 gal. ea. |
| | Inboard wing fuel cells (#2 and #3 alt.) | 54 gal. ea. |
| (4) | Eight Wing Tank Airplane - 1322, 1931 and 5042 Gal. System | |
| | Outer inner wing (#1 and #4 main) | 116 gal. ea. |
| | Inboard inner wing (#2 and #3 main) | 108 gal. ea. |
| | Outboard inner wing (#1 and #4 alt.) | 00 gal. ea. |
| | Inboard wing fuel cells (#2 and #3 alt.) | 39 gal. ea. |

The total undumpable fuel, oil and ADI fluid must be included in the landing weight. In some cases the amount of undumpable fuel, oil and ADI fluid is greater than the difference between the maximum "Zero Fuel, Oil and ADI Fluid" gross weight and the maximum landing weight. When such is the case, the "Zero Fuel, Oil and ADI Fluid" gross weight used in loading the airplane must be reduced by an amount sufficient to insure that the maximum landing weight will not be exceeded after the fuel is dumped.

- (f) When the oil transfer tank is installed in the wing fillet, the weight of oil carried in that tank plus the system oil (Item 103(c)) must be included in the Zero Fuel, Oil and ADI Fluid gross weight.
- (g) For the interior arrangement of a particular airplane, see approved Douglas Report SM-13977, "Loading Chart and Actual Weight and Balance." That report shows the location of all crew member seats, the location and capacity of all cargo compartments, and the load restrictions on the floor and wall cargo tie down fittings. Cargo compartment must be placarded for the capacities specified in the above report. The airplane must always be loaded within the C.G. limits shown in this specification, accounting for crew movement and use of fuel, oil, and ADI fluid.

NOTE 2. The following placard shall be placed on the instrument panel in full view of the pilot:

- (a) "This airplane shall be operated in compliance with the operating limitations specified in the FAA Approved Airplane Flight Manual."

NOTE 3. When water-alcohol injection is not used for take-off on aircraft equipped with Item 101(a), P&W Double Wasp CB-16 engines, Item 101(c), P&W LR-2800-52W engines. Item 101(e), P&W R-2800-83AM5 engines or Item 101(g) P&W Double Wasps CB-3 engines, the prop governors must be reset prior to take-off in order to limit the dry take-off engine rpm to 2700.

NOTE 4. Ferry permits may be issued to all Model DC-6A airplanes on which one engine is inoperative, with its propeller removed or feathered under the following conditions.

- (a) Operation of aircraft shall be in accordance with pertinent limitations contained in the applicable portion of the FAA Approved Airplane Flight Manual, pertinent appendices, and existing instructions.
- (b) Maximum take-off weight 81,000 lbs. (Except when limited by runway length specified in Manual).
- (c) C.G. range: Fwd. C.G. 11.0% MAC (Sta. 413.2)
Aft C.G. 28.0% MAC (Sta. 441.0)

NOTE 5. The Navy Model R6D-1 and the USAF Model C-118A are similar to the Model DC-6A except for engines, brakes and numerous other differences. Numerous installations installed for the military services do not meet the requirements of the Civil Air Regulations and, therefore, are not approved. Prior to certification as a commercial aircraft, the following must be accomplished:

- (a) The Troop Bench, Litter and Passenger seat installations have not been approved and must be removed. In the event any of these aircraft are to be certificated for carriage of passengers, the interior arrangement, seat and other installations incorporated in the airplane must be demonstrated to comply with the pertinent Civil Air Regulations.
- (b) The Radio Equipment installation must be replaced with FAA approved equipment.
- (c) The external filler for the crew oxygen systems must be relocated to a position where there will be not danger of contamination from the drainage of oil, hydraulic fluid, etc. In addition, the oxygen system listed under Item 408(c) does not meet FAA minimum protective oxygen requirements and the pilot's oxygen flow blinker indicator must be relocated to provide satisfactory visibility. Suitable modifications of the oxygen system must be accomplished to comply with the Civil Air Regulations.
- (d) The urinal installation must be removed from the aircraft and a thorough inspection made of the rear of the fuselage and empennage for corrosion and possible structural damage. All corroded and damaged areas must be suitably replaced or repaired.
- (e) The wing heater temperature gauge markings do not comply with the Civil Air Regulations and new markings must be installed.
- (f) The Automatic Pilot Servo Stall Torque limits do not comply with the Civil Air Regulations on all aircraft, therefore, the automatic pilot must be checked on each aircraft to determine whether the servo stall forces are within the approved limits, and if not, the Automatic Pilot installation must be suitably modified to insure the approved limits are not exceeded.
- (g) An Air Crew Check List (DACO Dwg. #3482737) is installed on some aircraft which is unsatisfactory to the FAA. This Check List must be removed or rendered inoperative prior to certification. The location of the Check List is such that visibility of the crew is seriously restricted when it is in position for use by the crew.
- (h) The Operation Limitation Placard on these aircraft must be revised to comply with the Civil Air Regulations.
- (i) A FAA approved "Loading Chart and Actual Weight and Balance Report" must be provided prior to certification as a civil aircraft.

- (j) The maintenance, overhaul and modification records of each aircraft must be reviewed for changes made by the military services that may affect the airworthiness of the aircraft. Modifications and changes of equipment which affect the safety or performance of the aircraft must be approved by the FAA.
- (k) A FAA Approved Airplane Flight Manual must be provided for each airplane prior to certification as a civil aircraft. Due to difference in equipment installed on the military and civil aircraft, the information contained in a FAA Approved Airplane Flight Manual for the Model DC-6A may not be applicable to the Navy R67D-1 or the USAF C-118A.
- (l) All military aircraft returned to civil operations must comply with all applicable Airworthiness Directives. prior to certification of a particular aircraft, it is suggested that the Aircraft Engineering Division, Western Region, L. A., California, be contacted for a complete list of all the modifications necessary. A Statement of Conformity for each individual aircraft, listing all non-conformities at the time of delivery to the military services is on file in that office. The non-conformities vary from time to time, therefore, the above items may not be a true indication of all the changes that may be required.

NOTE 6: The following table lists the maximum zero fuel, oil and ADI fluid, landing and take-off weights of the various 8 and 10 wing fuel tank aircraft as they are limited by structural strength. Although an aircraft may be eligible, from a structural standpoint, for certain take-off weights, the take-off weight may be limited from a performance standpoint due to the propeller and engine combination that is installed, the flap setting used and whether water-alcohol injection is used to increase the take-off power. Therefore, the table of take-off weights under maximum weights should also be adhered to in determining the maximum permissible take-off weight of various aircraft.

MAXIMUM STRUCTURAL LIMITS					
Airplane Serial Numbers		Zero Fuel, Oil, and ADI Fluid	Landing Weight	Take-off Weight	
8 Tank	10 Tank			8 Tank	10 Tank
DC-6A ⁽¹⁾					
43817-43819 43839-43841 44063, 44064 44069-44076 44257-44260 44420, 44421 44677 44889, 44890 44905-44909 44915-44917 45058, 45110 45226, 45227 45368, 45369 45372-45375 45457, 45458 45474-45476 45480, 45481 45497-45500 45503, 45504 45517-45522 45527-45532 45551	43296, 43297	83,200 ⁵	88,200 ²	107,000 ^{2, 3, 4}	107,000 ^{2, 3, 4}
C-118A					
43565 & up		83,200 ⁵	88,200 ²	107,000 ^{2,3,4}	
R6D-1					
	43206-43210 43401-43403	83,200 ⁵	88,200 ²		106,000 ^{2,3,4} 107,000 ^{2,3,4,6}
43670 & up	43404 & up	83,200 ⁵	88,200 ²	107,000 ^{2,3,4,6}	107,000 ^{2,3,4}

(1) See Douglas Service Bulletin #455, "Interchanging of DC-6 Empennage Components and Restrictions Covering Such Interchanges."

(2) Item 201(c), (d), (e), (f), (g), (h), (i), (j) or (k)

(3) Item 202(a) and 207(c), (d), (e), (f), (g), (h), (i), (j) or (k)

(4) 695 gal. capacity outer wing fuel tank required for take-off weights above 100,000 lbs.

(5) Placard speeds in accordance with Airspeed Limits Table.

(6) When center wing is reworked in accordance with Douglas Dwg. No. 5329195 "AG". (Ref. Douglas Service Letter A-214SRF/12/69/JBL dated 29 September 1952).

NOTE 7. (a) Deleted September 10, 1953.

- (b) Serial Nos. 43818 and 43819 are eligible for carrying 96 airplane occupants (90 passengers including cabin attendants and 6 flight crew per Slick Interior Configuration Dwg. No. 60145, Amend. 1, dated June 2, 1953) as modified in accordance with Slick Airways data on file in FAA Western Regional Office (Los Angeles, California). Operation as passenger airplane covered in Airplane Flight Manual SM-19239 (AAZ-UAT) (See Item 401(i)).
- (c) Serial No. 43296 is eligible for carrying 47 airplane occupants (40 passengers including 2 cabin attendants and 7 flight crew members per Slick Interior Configuration Dwg. No. 0295S dated Sept. 1, 1953) as modified in accordance with Slick Airways data on file in FAA Western Regional Office (Los Angeles, California). Operation as passenger airplane covered in Airplane Flight Manual SM-14848 (JAL). (See Item 401(f).)
- (d) Serial Nos. 44071, 44072, 44073 and 44074 are eligible for carrying 82 airplane occupants (77 passengers including one cabin attendant, and 5 flight crew members per Northwest Airlines Dwg. No. 6D16-27107, Rev. A, "General Arrangement - 76 Passenger DC-6A aircraft") as modified in accordance with Grand Central Aircraft Company data on file in FAA Western Regional Office (Los Angeles, California). Operation as passenger airplane covered in Airplane Flight Manual SM-14796 (NWA) (See Item 401(j)).
- (e) Serial Nos. 44069 and 44070 are eligible for carrying 47 airplane occupants (40 passengers including 2 cabin attendants, and 7 flight crew members per Slick Interior Configuration Dwg. No. 0295S dated Sept. 1, 1953 or Flying Tigers Interior Configuration Dwg. No. PS630A dated Nov. 5, 1953) as modified in accordance with Slick Airways and Flying Tiger Line data on file in FAA Western Regional Office (Los Angeles, California). Flying Tiger Line Supplementary Revision to Airplane Flight Manual (page 35a of Douglas Report No. 14848 dated Oct. 8, 1953) is required.
- (f) Serial No. 44075, 44678 and 44889 are eligible for carrying 107 or 111 airplane occupants (101 passengers including cabin attendants and 6 flight crew members or, 105 passengers including cabin attendants and 6 flight crew members per Flying Tigers-Slick Interior Configuration Dwg. No. E.O. 60184 "C" dated April 12, 1954) as modified in accordance with Flying Tiger-Slick Airline data on file in FAA Western Regional Office (Los Angeles, California). Flying Tiger Line Supplementary Revision to Airplane Flight Manual (pages 37 and 40C of Douglas Report No. SM-41457 dated November 30, 1955 for Serial Nos. 44075 and 44678, and page 40C dated Jan. 31, 1956 for Serial No. 44889) is required.
- (g) Serial No. 44064 is eligible for carrying 84 airplane occupants (80 passengers including cabin attendant and 4 flight crew members per Northwest Airlines Dwg. SK- 29777-1, Rev., "Interior Arrangement - CPAL DC-6A") as modified in accordance with Grand Central Aircraft Company data on file in FAA Western Regional Office (Los Angeles, California). Operation as passenger airplane covered in Airplane Flight Manual SM-14796 (NWA) (See Item 401(j)).
- (h) Serial No. 44890 is eligible for carrying 70 to 82 airplane occupants (including 2 cabin attendants and 4 flight crew members) when modified in accordance with PAC Supplemental Type Certificate dated April 27, 1956. (See Item 401(j) or Approved Airplane Flight Manual).

NOTE 8. In accordance with the agreement between the Department of Defense and the Civil Aeronautics Board, all air carrier operators utilizing aircraft which have been modified under the Civil Reserve Air Fleet Program, Part I, Phase II, may deduct the added weight of the military modification up to a maximum of 50 lbs. for each aircraft so modified.

NOTE 9. In accordance with FAR 121.198 and FAR 129.23, aircraft operated by "Air Carriers" for cargo operation only, are permitted to increase the zero fuel and landing weights by 5% of the zero fuel weight. For aircraft covered by this specification the maximum zero fuel, oil and ADI fluid weight may be increased to 87,360 lbs. and the maximum landing weight may be increased to 92,360 lbs. In addition to the operator's normal inspection program, aircraft operated in accordance with FAR 121.198 or FAR 129.23 must be inspected in accordance with "Special Inspection Procedure for Cargo Operation," "Ref. Douglas Report LB-30673," as revised and approved by the FAA. Before returning the airplane to passenger service after being operated at the increased weights in cargo service, the aircraft must be inspected per the above Douglas report. Requests for changes in the inspection procedure must be forwarded to the manufacturer for his recommendations and submitted to the FAA for approval.

FAA approved Airplane Flight Manual revision including performance information for operation at the increased weights should be obtained from the manufacturer.

.....END.....